

outcome of a cost-effectiveness analysis. This impact is most acute when the members of a large population can mix freely (there is little compartmentalisation), for example across different age groups, there is significant transmission (the mean number of secondary infections generated by each primary infection is greater than one) and where transmission is rapid (short incubation period). This final condition is important if the cost-effectiveness analysis has a short time horizon, particularly where costs are accumulated sooner than benefits (as in a vaccination program). This has been demonstrated in the analysis of both varicella zoster and hepatitis B virus vaccination programs. The circumstances in which transmission modelling is of greatest value will be further discussed, as too will those in which an individual based analysis suffices.

## PM C8

#### THE USE OF ADMINISTRATIVE DATABASE IN ITALY: INSIGHTS FROM THE FRIULI VENEZIA GIULIA CASE

Pitrelli A<sup>1</sup>, Olivieri D<sup>2</sup>, Patarnello F<sup>1</sup>, Frizzo V<sup>1</sup>, Scudellari F<sup>2</sup>

<sup>1</sup>GlaxoSmithKline spa, Verona, Veneto, Italy, <sup>2</sup>University of Verona,

Verona, Veneto, Italy

**OBJECTIVES:** The project AIDA (Atlas of Italian Administrative Database) recently shown that collection of administrative data in Italy is widespread both at national and local level; Aim of this study is to evaluate the use of these databases in health economics field in Italy focusing on Friuli Venezia Giulia (FVG) Region as pilot. **METHODS:** A Pubmed search was carried out using 11 different key words to match studies based on administrative data collected on FVG population published till December 2006. The articles included in the analysis were then classified according to therapeutic area, period, data source, population, other data. **RESULTS:** Initially our search identified 123 articles, but only 24 were eligible for inclusion in our project. 7 studies were focused on drugs efficacy and related AEs, 8 studies estimated prevalence, incidence or risk factor of some major diseases such as cancer, coronary or ischemic disease; 6 studies evaluated the effectiveness of surveillance campaigns and 2 studies were focused on quality of care provided by Regional Healthcare System. The articles were all published in the period between 1990 and 2006, and 58% were published in the last 7 year. All the studies included in the analysis gave information about resources use and consumption but only one study appraised the direct cost. Hospital discharge records, prescriptions registries and disease registries were most commonly used database in the eligible studies. **CONCLUSION:** FVG Healthcare Informative System is one of the best developed and with the highest quality of data collection at a local level in Italy, for this reason we have chosen it as pilot; our search showed that in recent years use of administrative data as proxy outcome and cost estimation was implemented compared to years '90 but they remain still underused in Health Technology Assessment.

## PM C9

#### PREVALENCE OF CONDITIONS IN THE US EMPLOYER INSURED POPULATION: A METHODOLOGY FOR PROJECTING FROM A CONVENIENCE SAMPLE

Hansen LG<sup>1</sup>, Chang S<sup>2</sup>, Foley K<sup>3</sup>

<sup>1</sup>Thomson Healthcare, Northwood, NH, USA, <sup>2</sup>Thomson Healthcare, Washington, DC, USA, <sup>3</sup>Thomson Healthcare, Philadelphia, PA, USA

**OBJECTIVES:** This study presents a methodology to estimate prevalence rates for specific diagnosed conditions among the ~170 million Americans covered by employer-sponsored

insurance (ESI). Individuals with ESI represent over 58% of the U.S. population, a large group with fewer cost barriers to care. **METHODS:** Estimates were made from the 2005 MarketScan® databases, which include all health care claims for approximately 20 million employees, dependents, and retirees with ESI. The Sample Select Prevalence tool identified patients diagnosed with asthma, osteoporosis, allergic rhinitis (AR), essential hypertension, rheumatoid arthritis (RA), type II diabetes, congestive heart failure (CHF), or hypercholesterolemia (using relevant ICD-9-CM diagnosis codes), and calculated prevalence rates. Weights were developed based on the Medical Expenditure Panel Survey (MEPS), a probability sample that estimates the number of Americans by health insurance type. The ratio of MEPS population estimate to MarketScan population within certain strata of demographic characteristics provided the projection weights. Prevalence rates were calculated for the total population and by age, gender, geographic region, and health plan type. **RESULTS:** Based on the 2005 MarketScan databases, annual rates per 100,000 were as follows: 11,175.69 (hypertension), 4,813.54 (type II diabetes), 4,739.46 (AR), 4,275.79 (hypercholesterolemia), 3,164.33 (asthma), 962.80 (osteoporosis), 736.29 (CHF), 521.59 (RA). These rates varied by age, gender, and geography. Annual expenditures per patient ranged from \$5,788 (AR) to \$37,105 (CHF). **CONCLUSION:** Reliable estimates of prevalence and costs for diagnosed health conditions are valuable to policy makers, providers, and payers. This study demonstrates a reliable projection methodology for estimating annual prevalence, treatment events, and costs associated with a diagnosed disease or condition based on a large convenience sample of health care claims data.

## PM C10

#### SPATIAL INTERPOLATION

Van der Steen A, Heeg B, De Charro F, Van Hout BA

Pharmerit Europe, Rotterdam, The Netherlands

**OBJECTIVES:** The Expected Value of Perfect Parameter Information (EVPPI) requires three level simulation in non-linear micro-simulation models, which is time consuming. Meta-modelling approaches reduce the time needed to evaluate the influence of uncertainty in complex health economic models. Here, two meta-modelling approaches are compared: spatial interpolation (SI) and ordinary least squares (OLS). **METHODS:** Both methods are applied to a drug-drug comparison in a micro-simulation schizophrenia model. The Net Benefits appear to depend rather non linearly on the underlying variables as assessed using the R<sup>2</sup> and the RESET-test. Ordinary least squares is applied using 950 model runs. SI is applied using 100 and 950 model runs. Subsequently both meta-modelling methods are used to predict 50 out-of-sample runs and evaluated with the Root Mean Squared Prediction Error (RMSPE) and the time needed to estimate the EVPPI. **RESULTS:** One run of the micro-simulation model takes 11 minutes. The SI 950 is more accurate than the OLS and SI 100, which are comparable (average RMSPE for net benefits for two treatments 3006, 4842, and 4823 respectively). The SI 950 EVPPI calculation takes much longer time to complete the calculations; the SI 100 on the other hand is much quicker than the OLS (11005 minutes for the OLS and 2672 minutes for the SI 100). **CONCLUSION:** The SI is a frequentistic approach with great resemblance with the Bayesian Gaussian Process meta-modeling method. If a simulation model takes very long to come up with results or the model is non-linear, SI is the superior meta-modelling technique. If the model is linear, SI is fancy but not ideal.